



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,962

09/22/2006

Timo Luukas

05725.1600-00000

5703

22852

7590

07/28/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

GULLEDGE, BRIAN M

ART UNIT

PAPER NUMBER

1619

MAIL DATE

DELIVERY MODE

07/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/593,962		LUUKAS, TIMO	
	Examiner		Art Unit	
	Brian Gulledge		1619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 57-115 is/are pending in the application.
- 4a) Of the above claim(s) 88-99 and 115 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 57-87 and 100-114 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Previous Rejections

Applicants' arguments, filed May 13, 2009, have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 57-76, 82-83, and 100-114 are and rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Canadian Patent Application Publication 2,169,713). Chen et al. discloses copolymeric material comprising 1,8-naphthalimide derivatives (abstract). Compositions can be prepared with an inert binder, such as polystyrene, and a polymer prepared from the 1,8-naphthalimide derivative (page 15, line 29 – page 16, line 4). Examples of the 1,8-naphthalimide monomer disclosed include compound **11** (page 13). Chen et al. does not disclose the preparation of the elected species of monomer. However, Chen et al. discloses that monomers of this type (formula (Ic)) include the species where R⁵ is hydrogen and R⁶ is methyl (page 1 and page 2, lines 9-16). This modification reads on the luminophore moiety of the instantly recited species. Chen et al. also teaches that the R³ group (the linker) of the 1,8-naphthalimide monomer has from 1 to 30 carbons and a hydroxyl group present (page 2, lines 5-

Art Unit: 1619

9), and that the hydroxyl group is modified with an acrylate (page 11, formula 2). This linker and the acrylate moiety read on the linker and polymerizable moiety of the elected species. However, Chen et al. does not teach that the amine to which the linker is attached is a secondary amine – the example disclosed by Chen et al. is a tertiary amine with a methyl substituent. The two compounds, with methyl and hydrogen, are very close structurally and would be expected to have similar properties, as both possess the same luminophore and the same polymerizable moiety. Therefore, there is a *prima facie* case of obviousness, due to the very close structural similarities and similar utilities, unless the Applicant demonstrates otherwise. See MPEP 2144.09. Thus, the above composition taught by Chen et al. reads on the composition recited by instant claims 57-67, 82-83, and 100-102.

Chen et al. discloses polymers that teach all of the limitations of instant claim 68-72 and 104-110 except for the species of comonomer. Chen et al. does teach 1,8-naphthalimide derivatives of formula (Ia) for use as monomeric units that read on the instantly recited comonomer of formula (A) (page 1, lines 8-21). Chen et al. also teaches polymers that combine more than one of the naphthalimide monomers disclosed (page 11, lines 18-20), and thus combining these two monomers in a single polymeric material teaches all of the limitations of instant claims 68-72 and 104-110.

The specific combination of features claimed is disclosed within the broad genera of the naphthalimide ligands and copolymer compositions that are taught by Chen et al. but such “picking and choosing” within several variables does not necessarily give rise to anticipation. *Corning Glass Works v. Sumitomo Elec.*, 868 F.2d 1251, 1262 (Fed. Circ. 1989). Where, as here,

Art Unit: 1619

the reference does not provide any motivation to select this specific combination of variables, anticipation cannot be found.

That being said, however, it must be remembered that “[w]hen a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious”. *KSR v. Teleflex*, 127 S.Ct. 1727, 1740 (2007) (quoting *Sakraida v. A.G. Pro*, 425 U.S. 273, 282 (1976)). “[W]hen the question is whether a patent claiming the combination of elements of prior art is obvious”, the relevant question is “whether the improvement is more than the predictable use of prior art elements according to their established functions.” (*Id.*). Addressing the issue of obviousness, the Supreme Court noted that the analysis under 35 USC 103 “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR v. Teleflex*, 127 S.Ct. 1727, 1741 (2007). The Court emphasized that “[a] person of ordinary skill is... a person of ordinary creativity, not an automaton.” *Id.* at 1742.

Consistent with this reasoning, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have selected various combinations of naphthalimide ligands and copolymer compositions from within the disclosure of Chen et al. to arrive at compositions “yielding no more than one would expect from such an arrangement”.

Instant claims 112 and 113 recite further limitations to the comonomer. Chen et al. teaches that one of the monomers is of formula (3), where M can be a C₁ alkylcarbonyl, and R⁹ is methyl (page 11, lines 1-5), thus teaching species recited in instant claims 112 and 113. Instant claim 114 recites that the polymer have a weight-average molecular mass ranging from 5,000 to

Art Unit: 1619

600,000 g/mol, and Chen et al. discloses an overlapping range of from 800 to 500,000 g/mol (page 15, lines 7-9). And in cases involving overlapping ranges, the courts have consistently held that even a slight overlap in range establishes a *prima facie* case of obviousness. *In re Peterson*, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003).

Claims 57-75, 85-87, and 100-113 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaul et al. (PCT Patent Application Publication WO 02/066563). Instant claim 57 recites a composition comprising a cosmetically acceptable medium and a polymer comprising a monomer of formula (I). Kaul et al. discloses copolymer compositions comprising a fluorescent dye attached to a polymer chain by a spacer (abstract, lines 1-4). The copolymer is disclosed as a dispersion in water (page 6, lines 18-21). A preferred dye monomer disclosed by Kaul et al. is of the formula (IV) (page 6), with R³ as hydrogen. The linking spacer R¹ is taught to be most preferably C₆ alkylene (page 5, lines 7-8), X is taught to be oxygen (page 3, line 12), and the preferred polymerizable group is acrylate (page 5, lines 10-11). The polymerizable moiety and the spacer taught by Kaul et al. are the same as the polymerizable moiety and the spacer of the instantly elected species, and the fluorescent moiety of this monomer is almost the same as the fluorescent moiety of the instantly elected species. The only difference is that the disclosed preferred monomer has hydrogen instead of the instantly recited methyl substituent. The two compounds, with methyl and hydrogen, are very close structurally and would be expected to have similar properties, as both possess the same fluorescent pentacyclic ring moiety and the same polymerizable moiety. Therefore, there is a *prima facie* case of obviousness, due to the very close structural similarities and similar utilities, unless the Applicant demonstrates

Art Unit: 1619

otherwise. See MPEP 2144.09. This composition reads on the compositions recited by instant claims 57-66, 85-87, and 100-101.

Kaul et al. also discloses using other fluorescent dyes, such as the dye of formula (IIa) (page 3), where R'' can be a C₆ alkyl substituent (page 3, line 22). The use of this monomer reads on the instantly elected species of comonomer recited by instant claims 67-69, 71, 102, 104-109, and 111.

Kaul et al. further teaches that the above polymerizable monomer is present in from 0.01 to 10 wt% (page 5, lines 16-19), a range that overlaps the ranges recited by instant claims 70 and 103. And in cases involving overlapping ranges, the courts have consistently held that even a slight overlap in range establishes a *prima facie* case of obviousness. *In re Peterson*, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003).

Kaul et al. further teaches that preferred co-monomers for the polymeric composition include acrylate (page 6, lines 18-21), reading on the co-monomer recited by instant claims 72-75, 110, and 112-113.

Claims 77-84 and 86-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scales-Medeiros (US Patent 5,626,839) in view of Bradner (US Patent 3,988,437) and Kaul et al. (PCT Patent Application Publication WO 02/066563). Scales-Medeiros discloses self-tanning compositions that comprise fluorescent materials in a cosmetic carrier (abstract, lines 1-4). Fluorescent materials taught by Scales-Medeiros for use in the cosmetic composition include naphthalimides (column 3, lines 40-46), and these materials are present in from 0.5 to 1 wt% (column 4, lines 50-51). The carrier compositions taught by Scales-Medeiros include the

Art Unit: 1619

carrier formulations taught by US Patent 3,988,437 (the Bradner reference) (column 4, lines 20-23), and Scales-Medeiros also teaches the further inclusion of vitamins in the composition (column 4, lines 13-15). The composition taught by Scales-Medeiros does not include the limitations to the carrier (water and a fatty phase) or the inclusion of an additional dye or pigment. Scales-Medeiros also does not teach the instantly recited species of polymer.

Bradner teaches carrier formulations for suntan compositions (abstract, lines 1-10). The composition comprises a cream that has water and lanolin present (column 7, example 1).

Kaul et al. teaches polymers comprising monomers functionalized with fluorescent dyes such that the stability and fluorescent properties of the dye are enhanced (page 2, lines 15-20). The fluorescent monomers taught include 1,8-naphthalimide compounds of formula (IVa) that read on the instantly recited species of formula (I) (see the above 103 rejection).

Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have used the carrier formulation taught by Bradner with the composition taught by Scales-Medeiros, and to have used the fluorescent polymer taught by Kaul et al., which has enhanced temperature stability, as the fluorescent dye in said composition. Scales-Medeiros teaches that the carrier compositions disclosed by the Bradner reference are useful for the disclosed invention, so Scales-Medeiros provides the suggestion to use a formulation such as the one taught by Bradner. Additionally, Scales-Medeiros teaches multiple compositions comprising dyes and pigments (column 3, lines 40-44). And a combination of two of these compositions would meet the limitations of instant claims 80 and 81, and generally, it is *prima facie* obvious to combine two compositions, each of which is taught by the prior art to be useful for same purpose, in order to form a third composition to be used for the very same

Art Unit: 1619

purpose. The idea for combining them flows logically from their having been individually taught in the prior art. See MPEP 2144.06.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 57-87 and 100-114 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 57-58, 62-68, 70-92, and 106-124 of copending Application No. 10/592,050. The Applicant agrees with the rejection, and stated their intention to file a suitable terminal disclaimer in the event that the pending claims are otherwise allowable.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Art Unit: 1619

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Gullledge whose telephone number is (571) 270-5756. The examiner can normally be reached on Monday-Thursday 6:00am - 3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Krass can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BMG

/Frederick Krass/
Supervisory Patent Examiner, Art Unit 1612